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REMARKS

The Examiner's Office Action mailed June 6, 2006 and the references cited therein have been reviewed. In this response, claims 2-5, 7-10, 13, and 14 have been cancelled and replaced with new claims 15-34. In addition, the specification has been amended to correct a mistake in wording spotted by the Examiner. Applicant requests that the application be reexamined and reconsidered in view of these amendments and further in view of the following remarks.

The Examiner's Objection to the Specification

In the Office Action mailed June 6, 2006, the Examiner noted an error in the specification with regard to the solution charges stated in the first paragraph appearing on page 7. Consequently, the references to the solution charges have been removed from the paragraph.

The Examiner's Rejections of Applicant's Prior Claims Under 35 U.S.C. § 112 First and Second Paragraphs

Applicant's prior claims 2-5, 7-10, and 13-14 were rejected under 35 U.S.C. § 112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner noted that: (a) claim 10 depended from cancelled claim 1; (b) the wording "live animals, and in particular pigs and poultry" presented uncertainties as to the scope of the term "live animals" used in the claims; (c) the phrases "various hydraulic flow arrangements," "various configurations," "optimally," and "manipulating" were indefinite and unclear; (d) the phrases "the anolyte" and "the catholyte" used in the claims lacked antecedent basis, and (e) the percentages recited in claim 3 were indefinite because no bases for the percentages were stated.

In addition, the Examiner rejected Applicant's prior claim 7 under 35 U.S.C. § 112 first paragraph because the claim contained mistaken references to the charges of the anolyte and catholyte solutions.

As indicated above, all of Applicant's prior claims 2-5, 7-10, 13 and 14 have been cancelled and replaced with new claims 15-34. All of the language cited by the Examiner in rejecting Applicant's prior claims under 35 U.S.C. § 112, first and second paragraphs, has either been omitted from or corrected in Applicant's new claims 15-34. Applicant therefore respectfully submits that all of the Examiner's rejections under 35 U.S.C. § 112, first and second paragraphs, have been overcome and requests that these rejections be withdrawn.

#### The Requirements of Applicant's New Claims 15-34

In Applicant's new claims 15-34, Applicant has clarified that the method in question is a method for preventing healthy live animals from becoming diseased from exposure to pathogenic microorganisms. The bases for all of the clarifying features of Applicant's new claims 15-34 can be found in the specification, for example, at: page 1, line 19 – page 2, line 4; page 3, lines 1-10; page 5, first paragraph; page 8, last paragraph; page 9, paragraphs 3 and 4; page 10, paragraphs 1-4; page 12, Example 1; pages 12-14, Example 2; pages 14-15, Example 3; pages 15-16, Example 4; and pages 16-17, Example 5. Applicant also respectfully submits that all of the subject matter called for in Applicant's new claims 15-34 was disclosed in Applicant's parent application Serial No. 09/529,734 and is therefore entitled to the same priority date as the parent application.

Applicant's new claims 15-24 call for a method of preventing a live animal from becoming diseased as a result of exposure to pathogenic microorganisms which are present in the animal's environment in any manner such that the microorganisms will enter and become present

in the animal's digestive system. Claim 15 states that the method comprises the step of orally administering to the animal an electro-chemically activated anion-containing aqueous solution in a preventative amount effective to destroy the pathogenic organisms which enter and become present in the animal's digestive system. Claim 16 depends from claim 15 and states that the anion-containing solution comprises  $\text{ClO}$ ;  $\text{ClO}^-$ ;  $\text{HClO}$ ;  $\text{OH}^-$ ;  $\text{HO}_2^-$ ;  $\text{H}_2\text{O}_2$ ;  $\text{O}_3$ ;  $\text{S}_2\text{O}_8^{2-}$ ;  $\text{Cl}_2\text{O}_6^{2-}$ ; or a combination thereof. Applicant's claims 17-21 all depend from claim 15 and require, respectively, that the pathogenic microorganisms comprise (a) an enteric micro-organism, (b) viral organisms, (c) bacterial spores, (d) cyst forming organisms, or (e) E-coli.

Applicant's claims 22-24 depend from claim 15 and state that the anion-containing solution is orally administered to the live animal for a plurality of days by adding the anion-containing solution to a water supply of the animal in a manner such that, by drinking the water supply, the animal will ingest the preventative amount of the anion-containing solution. Claim 23 states that the anion-containing solution is added to the animal's water supply in an amount such that the concentration of the anion-containing solution will be at least 10% by volume of the total volume of the water supply and the anion-containing solution. Claim 24 states that the preventative amount of anion-containing solution added to the water supply is also an amount effective to cause an increased weight gain of the live animal.

Applicant's claims 25-34 call for a method of preventing a live animal from becoming diseased as a result of exposure to pathogenic microorganisms which are present in a respiratory environment for the live animal in any manner such that the pathogenic microorganisms will enter and become present in the animal's respiratory system. Claim 25 states that the method comprises the step of administering to the animal, by inhalation, an electro-chemically activated

anion-containing aqueous solution in a preventative amount effective to destroy the pathogenic microorganisms which enter and become present in the animal's respiratory system.

Applicant's claim 26 depends from claim 25 and states that the anion-containing aqueous solution comprises  $\text{ClO}$ ;  $\text{ClO}^-$ ;  $\text{HClO}$ ;  $\text{OH}^-$ ;  $\text{HO}_2^-$ ;  $\text{H}_2\text{O}_2$ ;  $\text{O}_3$ ;  $\text{S}_2\text{O}_8^{2-}$ ;  $\text{Cl}_2\text{O}_6^{2-}$ ; or a combination thereof. Claims 27-30 each also depend from claim 25 and state, respectively, that (a) the pathogenic microorganisms comprise viral organisms, (b) the pathogenic microorganisms comprise bacterial spores, (c) the pathogenic microorganisms comprise cyst forming organisms, or (d) the pathogenic microorganisms are destroyed by the anion-containing aqueous solution in the lung tissue of the animal.

Applicant's claims 31-34 depend from claim 25 and state that the anion-containing aqueous solution is administered to the live animal by inhalation for a plurality of days by adding the anion-containing solution to the animal's respiratory environment in a manner effective such that, while breathing, the animal will inhale the preventative amount of anion-containing aqueous solution. Claim 31 states that the anion-containing solution is added to the environment by fogging, atomization, or a combination thereof. Claim 33 states that the anion-containing aqueous solution is added to the environment in a droplet form having an average droplet diameter in the range of from 5 to about 100 micrometres. Claim 34 states that the preventive amount of anion-containing solution administered by inhalation is also an amount effective to cause an increased weight gain of the live animal.

The Examiner's Rejections of Applicant's Prior Claims Under 35 U.S.C. § 103

The present application is a continuation-in-part of Applicant's prior application Serial No. 09/529,734 which was a 371 of PCT/US98/2237 (filed 10/23/1998), which claims the

benefit of South African application ZA 97/9486. Applicant notes that Publication No. US2004/0131695 A1 of this continuation-in-part application incorrectly states that the South African application was filed on October 23, 1998. As indicated in the PCT documentation for this case, and in the Applicant's declaration, the South African application was actually filed on October 23, 1997.

In conducting the prior art examination of Applicant's prior claims 2-5, 7-10, 13, and 14, the Examiner first found that all of the claims contained subject matter which was not entitled to the priority date of the parent application Serial No. 09/529,734. Consequently, the Examiner held that the claims were only entitled to the actual filing date of this continuation-in-part application (10/27/2003) so that Applicant's own prior PCT Publication No. WO99/20287 was available as prior art against the claims. As indicated above, Applicant respectfully submits that all of the subject matter called for in Applicant's new claims 15-34 was disclosed in the parent application Serial No. 09/529,734. As a result, Applicant's prior PCT publication No. WO99/20287 does not constitute prior art against Applicant's new claims 15-34.

The remaining references cited in the Examiner's rejections of Applicant's claims 2-5, 7-10, 13 and 14 under 35 U.S.C. § 103(a) were: U.S. Patent No. 5,674,537, issued to Morrow; Shirahata, et al., "Electrolyzed-Reduced Water Scavenges Active Oxygen Species and Protects DNA From Oxidative Damage," Biochemical and Biophysics Research communications, Vol. 234, No. 1, pgs. 269-74 (1997); and Kroschwitz, et al. (Kirk-Othmer Encyclopedia of Chemical Technology). Applicant respectfully submits that these references neither disclose nor suggest key features called for in Applicant's new claims 15-34.

These prior art references, as well as the references cited in Applicant's parent application Serial No. 09/529,734, have involved two types of procedures heretofore known in the art, each

of which is distinctly different from the invention of Applicant's claims 15-34. The first prior art procedure has involved the use of an electrolyzed water composition to simply clean the air or purify water. Although it is desirable, for obvious reasons, that the electrolyzed water composition used in such a procedure be nontoxic, it is not an object of the procedure that an animal be caused to ingest or inhale any significant quantity of active material.

The second type of prior art procedure has involved the targeted use of electrolyzed water compositions to treat infections in sick people. In contrast to such procedures, the inventive method called for in Applicant's claims 15-34 is a preventative, proactive treatment for healthy live animals wherein the animals are intentionally caused to ingest or inhale a preventative amount of an electro-chemically activated anion-containing solution which will destroy pathogenic microorganisms which are present in the animal's environment in any manner such that they will enter and become present in the animal's digestive system and/or in the animal's respiratory system.

The cited Morrow patent provides an example of the second type of prior art procedure. Morrow discloses only the directed use of an electrolyzed saline solution to treat infections in sick animals, particularly, humans. The electrolyzed solution is preferably injected intravenously but Morrow also suggests that it can be administered orally. Morrow teaches that the electrolyzed saline solution contains amounts of ozone and active chlorine species which mimic or enhance naturally occurring free radicals produced by respiratory bursts in the animal's cells in responding to the infection.

Shirahata et al. merely disclose that water produced near the cathode during electrolysis has a high pH and significant negative redox potential value and that this reduced water inhibits DNA damage caused by oxygen radicals via antioxidant properties.

Kroschwitz et al. was cited by the Examiner as establishing that various electro-chemical reactor features are conventional and that cells may be arranged in series or parallel circuits. The reference also discloses the creation of various species upon electrolysis of a chloride solution.

Thus, in summary, the prior art references neither disclose nor suggest key features called for in Applicant's claims. Examples of such features include, but are not limited to:

- a. A method of preventing a live animal from becoming diseased from exposure to pathogenic microorganisms which are present in the animal's environment in any manner such that they will enter and become present in the animal's digestive system (claim 15) or the animal's respiratory system. (Claim 25)
- b. A method of this type comprising the step of orally administering an electro-chemically activated anion-containing aqueous solution to the animal in a preventative amount effective to destroy the pathogenic microorganisms which enter and become present in the digestive system. (Claim 15)
- c. A method wherein the anion-containing aqueous solution is administered by inhalation in a preventative amount effective to destroy the pathogenic microorganisms which enter and become present in the animal's respiratory system. (Claim 16)
- d. A method of the type called for in claim 15 wherein the anion-containing solution is orally administered to the animal for a plurality of days by adding the anion-containing solution to the animal's water supply in a manner effective such that, by drinking the water supply, the animal will ingest a preventative amount of the anion-containing aqueous solution effective for destroying the micro-

organisms which enter and become present in the animal's digestive system.

(Claim 22)

- e. A method of the type called for in claim 22 wherein the anion-containing aqueous solution becomes at least 10% by volume of the animal's water supply.

(Claim 23)

- f. A preventative inhalation treatment of the type called for in claim 25 wherein the anion-containing aqueous solution is added to the animal's respiratory environment for a plurality of days in a manner effective such that, by breathing, the animal will inhale a preventative amount of the anion-containing aqueous solution effective for killing the microorganisms which enter and become present in the animal's respiratory system. (Claim 31)

- g. A method wherein the preventative amount of anion-containing solution ingested by the animal from its water supply or inhaled from its respiratory environment is also an amount effective to cause an increased weight gain of the live animal.

\* \* \* \* \*


In view of the above, Applicant respectfully submits that all of Applicant's claims 15-34 are in condition for allowance. Applicant therefore requests that all of the Examiner's rejections and objections be removed and that claims 15-34 be allowed.



This paper is intended to constitute a complete response to the Examiner's Office Action mailed June 6, 2006.

Respectfully Submitted,

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Date

  
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